Invermere Timber Supply Area
Timber Supply Review

Summary of Public Input

BC Ministry of Forests
Invermere Forest District
625 – 4th Street
PO Box 189
Invermere, BC
V0A 1K0

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This is a summary of the public input received on the Timber Supply Review in the Invermere Timber Supply Area. This summary does not assess the feasibility or validity of the input or whether it relates to the clearly defined mandate of the chief forester in the allowable annual cut determination.

104-01766/

Invermere Timber Supply Area

Background

As part of the review of timber supply in the Invermere Timber Supply Area (TSA), two opportunities were provided for public input. The first followed release of the Invermere Timber Supply Area *Data Package* and *Information Report* in March 2000. The *Information Report* was a non-technical summary of the draft data and management assumptions that were to be applied in reviewing the timber supply for the Invermere TSA. A 30-day review period, ending April 28, 2000, was provided for the public to comment on these documents.

On October 5, 2000, the British Columbia Forest Service released the *2000 Invermere Timber Supply Area Analysis Report* and *Public Discussion Paper*. The public was encouraged to review and comment on the accuracy of the information in these documents and to provide additional information during the 60-day review period that ended December 8, 2000.

This report summarizes the input received during both public review periods. This information was provided to the chief forester for his consideration when he reviewed the allowable annual cut (AAC) for the Invermere TSA. The first section of this summary outlines the public review process implemented by the Forest Service, and describes the types of public input received. The second section summarizes the public input in sufficient detail to indicate the range of input received. The original submissions (with personal identifiers removed in accordance with the *Freedom of Information and Protection of Privacy Act*) can be reviewed at the Invermere Forest District office.

Public Review Process and Response

Invermere District staff actively solicited public input on the Timber Supply Review in the Invermere TSA through the following actions:

- direct mail-out of about 36 copies of the *Information Report*, *Data Package*, *Analysis Report* and *Public Discussion Paper* to local governments and MLAs, First Nations, licensees, forest workers, environmental groups, ranchers, consultants and interested individuals in the Invermere TSA or adjacent timber supply areas.
- the *Data Package* and the *Invermere Timber Supply Area Analysis Report* were available at the district office.
- a meeting regarding the *Data Package* and the *Analysis Report* was held with representatives from the East Kootenay Environmental Society (six attendees).
- the Timber Supply Review documents were discussed with the local MLA.
- copies of the documents were provided to the local media.
- newspaper advertisements were placed, advising of the availability of the documents for review by the public.
- telephone contact was made with various individuals and organizations, providing further information if needed and encouraging them to provide input.

The Invermere Forest District also received four written submissions on the *Data Package* and two submissions on the *Analysis Report* (see Appendix 1).

Public Input

In this section, public input on the information presented in the Timber Supply Review documents for the Invermere TSA is summarized under the following headings:

- Data Package (and Information Report)
- Timber Supply Area Analysis Report (and Public Discussion Paper)
- Other comments

Data Package

Inoperable Areas

Two forest industry submissions comment on the definition of inoperable sites. Slocan Forest Products (SFP) says steep slopes below the operability line should not be excluded from harvesting if site conditions permit harvesting and successful reforestation. The company says they know of areas that have been logged yet would be excluded based on the *Data Package* definitions.

Crestbrook Forest Industries (CFI) provides details about the five per cent of their harvesting since 1987 that has occurred in stands that are being excluded from the harvesting land base on the basis of operability. These sites should be included, says the company, particularly lodgepole pine stands with a site index of <13 metres at 50 years of age.

Problem Forest Types

Three submissions comment on problem forest types that are excluded from the timber harvesting land base (THLB). SFP says the netdown should be reconsidered as recent practice in lodgepole pine stands has been to utilize down to a top diameter of less than four inches. SFP says the pressure on small log stands will likely increase due to the existence of a small log manufacturing facility and technology improvements. The company says this provides an opportunity to increase the THLB.

CFI requests further information on how these types were defined and recommends a review of site index cut-offs for problem forest types 2 and 3. The East Kootenay Environmental Society (EKES) expresses concern that problem forest types are insufficiently accounted for. The society says industry has often chosen to avoid harvesting these types and this must be accounted for as a land base netdown.

Roads, Trails and Landings

EKES says the estimates of land base netdowns required to account for roads, trails and landings (RTLs) are based on the Forest Practices Code, but that rights-of-way in many places are greater due to terrain or Workers Compensation Board requirements. The society says the 7.5 per cent and 8.1 per cent figures for existing and future RTLs should be increased to better reflect reality.

Both SFP and CFI express disagreement with the use of a 20-metre road width for existing mapped roads, saying that is the right-of-way width and only on steep slopes will that width be fully used. The companies say the area removed from productivity is substantially less, since in most cases trees will grow on the toe of the fill and crown closure will overlap the road. CFI notes that an adjoining TSA used a width of 15.9 metres for secondary roads and 8.5 metres for logging roads. SFP says the reduction should only include the area from the top of the cut to the toe of the fill, about a 10- to 15-metre width.

CFI and SFP question the use of a 4.5 per cent area deduction to account for existing skid trails. SFP says based on their experience, 2.5 per cent is more appropriate. SFP also says the average landing size used (.25

ha) is too high, noting a Forest Practices Code audit that indicates the average to be about .2 ha. The company notes the current practice is to build fewer and, in some cases, no landings.

With regard to future RTLs, both companies question the 0.6 per cent reduction for roads, and say the 4.5 per cent reduction for skid trails is excessive due to rehabilitation requirements and the three per cent reduction for landings should be reduced to at least 2.3 per cent.

Existing Forest Inventory

EKES questions whether an inventory audit has been done and how it is reflected in the timber supply analysis.

Expected Rate of Growth

Two submissions note that the analysis ignores the effects of climatic warming and its impacts on tree growth. EKES says the presence of drier subzones in this TSA means the effects will likely be significant and this should be reflected in a sensitivity analysis.

Two forest industry submissions say genetically improved stock should not be excluded from the base case as it is increasingly available, the legal requirement to use it is in place, and both companies have planted genetically improved spruce.

CFI and SFP maintain that the operational adjustment factor (OAF) used for seed-tree analysis units is excessive, and is applied too broadly to reflect current or past harvesting practice. The two companies also request further information on the determination of the OAF used to account for losses from Armillaria root disease.

Minimum Harvestable Age

CFI raises several questions regarding the minimum harvestable ages used in various analysis units. The company particularly questions the age used in the partial cut units, saying a lower minimum harvestable age would facilitate earlier entry and better support the goal of increasing forage production.

Not Satisfactorily Restocked Areas

CFI recommends that the 930 hectares of backlog NSR should be returned to the productive land base after 40 years. The company says these areas will likely reforest to coniferous species over time.

Silvicultural Systems

Two forest industry submissions question the percentages used in the *Data Package* for various harvesting methods. SFP says from 1996-1998 they harvested about 15 per cent of their area with cable systems and the rest was ground harvested. CFI says their data indicates 18 per cent for cable and 1.6 per cent for helicopter harvesting.

Utilization Standards

EKES says that the forest industry has accepted and begun to move forward on implementation of reduced utilization standards as a result of the Forest Action Plan, and these should be reflected as a timber supply netdown.

SFP says a 20-cm stump height would be closer to current practice than the 30-cm height used in the *Data Package*.

Landscape Level Biodiversity

EKES says that Biodiversity Emphasis Options (BEOs) now being used in the TSA should be reflected in the base case as current practice. The society says, based on the Kootenay-Boundary Higher Level Plan objectives, the analysis must allow for an operable land base netdown for connectivity and grizzly habitat to

reflect implementation of the mature components of the BEOs. As well, EKES says the need to recruit mature and old stands must be reflected in the base case. CFI says the base case should use the 10-45-45 BEO formula, assuming BEOs have not been formally established in the TSA.

Two forest industry submissions question why Kootenay National Park is not considered to contribute to biodiversity and seral stage targets when five provincial parks do contribute. The Sheep Creek Community is of the opinion that the land base that supplies timber should also meet the requirements for other values. They maintain that since parks do not contribute timber, they should not be considered to provide biodiversity values, wildlife habitat, etc.

Stand Level Biodiversity

The Sheep Creek Community says wildlife tree patches (WTPs) need greater recognition because of their importance, and this should be mirrored in a lower harvest level. EKES notes that residual volume in cutblocks should be appropriately netted down.

SFP says they cannot comment on this factor since no data was provided. The company says all previous exclusions and Crown forest outside the harvesting land base must be used whenever possible to meet stand level biodiversity objectives. CFI says they await the outcome of the wildlife tree mapping project and request a summary of its findings.

Forest Ecosystem Networks

Two forest industry submissions question the Forest Ecosystem Networks (FENs) used in the *Data Package*. SFP says FEN areas were never intended for preservation but were to employ special management considerations, such as variable retention harvesting, and to include riparian and other features already netted out of the harvesting land base.

SFP and CFI note that licensees did not agree with the FENs developed outside of the Total Resource Plan process because they didn't adequately use the non-contributing land base. CFI says the utility of any mapping of FENs is questionable as any networks are to be achieved through deployment of mature and old seral targets, not through pre-emptive mapping.

Forest Cover Requirements

SFP and CFI raise various questions about adjacency requirements, including the use of the top 100 trees to determine the green-up measurement, using free-to-grow survey data to determine green-up, and the green-up height requirement for large patch pine based on the Kootenay-Boundary Land Use Plan (KBLUP).

Environmentally Sensitive Areas

SFP and CFI request further information on the reductions for areas with environmental sensitivity due to plantation problems, domestic water intakes, recreation values and wildlife.

Riparian Habitat

EKES says riparian management zones are necessarily wider than Forest Practices Code requirements in many areas and this should be more appropriately modeled. The Sheep Creek Community says riparian zones are not adequately considered in the analysis and must be widened.

SFP and CFI request further detail on the netdowns and forest cover requirements in riparian management zones.

Domestic and Community Watersheds

EKES says the analysis model does not address public concerns in watersheds such as the Lussier where Equivalent Clearcut Area (ECA) restrictions will prevent further harvesting for some time. EKES says netdowns should be included for the Lussier and extrapolated to all drainages with similar hydrological considerations.

SFP says community watersheds should not be subjected to forest cover constraints as they are already subject to an ECA analysis. The company also says 26 years to achieve a six-metre green-up height in areas where they are strongly motivated to perform aggressive silviculture programs seems very conservative. CFI says ECA calculations are based on the Crown forest land base and the application of forest cover requirements to only the net harvesting land base for community watersheds is not appropriate.

Fire Maintained Ecosystem Restoration

EKES expresses concern that restoration management will not be appropriately modeled and says that restoration requires partitioning of additional harvest into overstocked areas in the Trench. SFP says the maximum 35 per cent of the area below green-up height is inconsistent with the goal of promoting open forest conditions. CFI makes the assumption that that cover constraint does not apply to the partial harvest analysis units, and suggests constraints on lodgepole pine- and larch-leading open forest and open range types should be removed, in order to promote early harvesting and forage production.

Wildlife

The Sheep Creek Community says the number of endangered, threatened and vulnerable species is increasing in the TSA and the Ministry of Environment has been pushing for more habitat, more road closures, and reduced harvesting to mitigate the stresses on wildlife. EKES says the one per cent impact of wildlife habitat areas should be accounted for, either through a land base netdown or a base case timber supply netdown.

EKES says the parkland definition needs to be expanded to all areas that include whitebark pine in all Caribou Management Zones. The society also says caribou management guidelines should be appropriately modelled to reflect impacts spatially as is occurring in Buhl Creek.

Two forest industry submissions question why ungulate winter range cover constraints are applied over just the THLB rather the entire Crown forest. Areas outside the harvesting land base provide some of the best forage and cover opportunities, according to the companies. In addition, the companies disagree with the cover requirement of 40 per cent mature as this guarantees cover but does nothing to guarantee food supply throughout a rotation.

Non-Recoverable Losses

Four submissions comment on how timber volume losses due to Armillaria root disease are accounted for. Two forest industry submissions believe the loss estimates are too high and that root disease losses are accounted for in other deductions or calculations. The Sheep Creek Community believes root disease must be considered as an unsalvaged loss, and also says that the effect of climate warming on unsalvaged losses must be addressed. EKES expresses concern that root disease losses be realistically accounted for.

Recreation Areas

Two industry submissions question why UREP areas (areas set aside for the Use, Recreation and Enjoyment of the Public) smaller than 100 hectares are reserved from harvesting. The companies say the intent was not to create small provincial parks and that recreational values can be protected through forest cover constraints similar to other TSAs.

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Socio-Economic Factors

The submission from the Sheep Creek Community says the "working forest" is no longer the sole domain of the forest sector, pointing to a sudden and dramatic shift in the economy, with a move from timber to tourism and recreation. The community suggests that objectives, targets and goals be developed in the TSA that expand the reality of the working forest.

Timber Supply Area Analysis Report

Land Base Factors

Tembec (formerly CFI) says the base case should have included lodgepole pine- and spruce-leading stands with lower site indexes, since five per cent of their harvesting since 1987 has occurred in these stands. The company also questions the logic behind the criteria that define problem forest types 2 and 3.

From 1996 to 1998, 18 per cent of Tembec's harvested volume was cable harvested and 1.6 per cent was heli-logged. The company says this indicates a trend towards increased steep slope harvesting and supports the inclusion of steep side slopes that are excluded as inoperable in the analysis.

Tembec says the 100 per cent exclusion of sites with severe plantation problems is excessive, as many of these sites could be reforested with the variety of stock types available and the proven success of duff planting.

With regard to land base deductions for roads, trails and landings, Tembec says using a 20-metre road width is excessive, noting that an adjacent TSA used 15.9 metres for secondary roads and 8.5 metres for logging roads. The company says the 4.5 per cent reduction for skid trails is inappropriate given Code requirements for full rehabilitation.

Forest Inventory Factors

Tembec notes that a sensitivity analysis indicates short-term timber supply is extremely sensitive to the estimates of volume in existing stands. The company says previous discussions with district staff indicated the potential for an increase in volume estimates, based on a cruise/inventory comparison.

EKES says Figure 17 supports their position that the existing inventory of mature stands must be reserved from harvesting now, in case inventories are less than estimated in the analysis. The society says this volume will be needed in 50 years to prevent a trough in timber supply.

Expected Rate of Growth

EKES expresses concern about reliance on managed stands to support an artificially high allowable annual cut (AAC) The society offers the following reasons:

- no reliable, long-term data exists that supports the growth-and-yield analysis for partial cutting or for mixed species stands.
- volume loss to Armillaria root disease is still under study and may well be underestimated.
- in areas where lodgepole pine and Douglas-fir naturally regenerate, genetically improved stock may not be identified and managed for.
- genetic improvement does not guarantee the stock will withstand events such as windthrow, fire, drought, etc. Breeding for one attribute may produce other attributes less favourable for survival and growth.
- the recent Tembec forest health study showed total pests affecting all conifers ranged from 0 to 39 per cent. The most obvious trend was the moderate to high infestation levels in virtually all lodgepole pine-leading stands at lower elevations.

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EKES says the base case shows an average volume of 178 cubic metres per hectare, a seven per cent increase over the 1995 base case. The society asks where the long-term data is to support the assumption that such growth rates are actually possible.

Tembec questions the validity of how OAFs are applied to account for seed tree silvicultural systems and losses to Armillaria root disease. The company also says the use of genetically improved seedlings should have been included in the base case, as it is current practice. Tembec says the estimate of a 1.3 per cent gain in long-term yield is pessimistic as the current gain is 11.2 per cent and expected to increase to 20 per cent for spruce.

Tembec notes that timber supply is very sensitive to site index and says the chief forester should consider the results of Old Growth Site Index studies as an upward pressure. EKES urges the chief forester not to rely on adjusted site indices for the following reasons:

- doing so relies on second-growth stock to meet the long-term harvest level.
- because of stated biases and cautions in studies; quotes are provided from Nussbaum and Nigh.
- because 45 per cent of the stands in the THLB are above the minimum harvestable age.

Tembec raises a number of particular questions with regard to minimum harvestable ages (MHA), while EKES notes that in partial cuttings and commercial low thinnings, harvest entries are made prior to the MHA being reached.

Not Satisfactorily Restocked Areas

EKES notes a discrepancy in the area of NSR between the *Information Report* and the *Analysis Report*.

Forest Cover and Green-Up Requirements

Tembec questions if cover requirements for visual quality zones, community watersheds and the Trench are based on the total Crown forest area. The company says this is the correct approach, as used in adjoining TSAs. Tembec questions the three-metre green-up height for high elevation pine units, saying the KBLUP uses 2.5 metres. The company also maintains the forest cover requirements in the Trench may restrict the ability to harvest stands and create grasslands.

EKES questions whether the model captures harvesting adjacent to partial cut areas that meet green-up requirements. The society says it appears the model could use partial cutting, and harvest and road an entire landscape unit. EKES also refers to the 1996 Rationale Statement in which the chief forester noted the need for a study of the number of harvesting passes that would most accurately represent cutblock adjacency constraints in this TSA. EKES says this study, although not mentioned in the *Analysis Report*, is critical.

Recreation Areas

Tembec notes the analysis did not include UREPs smaller than 100 hectares. The company says the intent was not to create small parks but to recognize recreational values, which could be accomplished with forest cover constraints.

Watersheds and Riparian Areas

EKES says that projected population growth in the TSA means greater demand on forest resources, especially drinking water. While the Forest Practices Code applies to harvesting in tributaries that are critical fish habitat or community watersheds, the long-term implications of harvesting in watersheds is not considered in the analysis.

EKES also notes new management direction implied in letters from the Department of Fisheries and Oceans and the Ministry of Forests (July 5 and July 18, 2000, respectively) regarding harvesting practices adjacent to small streams. The society says this should result in increased reserves and higher retention along these streams, resulting in further reductions to the THLB.

Wildlife

Tembec notes that short-term timber supply is highly sensitive to ungulate winter range guidelines. The company says the guidelines as written could result in sufficient cover but insufficient forage, and suggest that a less restrictive guideline aimed at producing forage would create upward pressure on short-term timber supply.

EKES states its objection to the presentation of Figures 19 to 21, saying these graphs only show timber values without reference to ungulate population decreases linked to loss of forest habitat. The society says the graphs imply trade-offs between timber and wildlife could satisfactorily be made, but this isn't the case in much of the TSA as ungulate winter range provides more than wildlife values (water quality, riparian, visuals and recreation).

EKES also expresses the opinion that partial cutting does not necessarily meet ungulate winter range cover requirements as it is often based on volume retention not crown closure. Examples are provided in this submission.

Biodiversity

Tembec questions why only provincial parks contribute to meeting biodiversity objectives, and not Kootenay National Park. Including it would have contributed to meeting old and mature seral stage targets, creating upward pressure on the timber supply forecast.

EKES raises a number of concerns about biodiversity management, including:

- areas identified as Forest Ecosystem Networks or Old Growth Management Areas should either be excluded from the THLB or modelled with extended rotations.
- the graph of current age class distributions (Figure 6) does little to illustrate the actual biodiversity situation in the TSA. A more thorough analysis would no doubt show deficits in low- to mid-elevation ecosystems.
- Invermere district's approach for managing for biodiversity is contrary to the KBLUP Implementation Strategy.
- old seral requirements were intended to be met across the landscape proportionally.
- the graphs in Figure 15 illustrate that areas designated for old growth and old growth recruitment are primarily outside the THLB. In the long term, it is reasonable to expect that these areas will need to be recruited from within the THLB, creating pressure for an AAC reduction.
- the base case assumes that forests in parks and the inoperable will all grow to 250 years. This is unproven and highly unlikely.

Harvest Flow

Tembec says the chief forester should consider not following a pine priority for harvesting, noting the positive short-term effects on timber supply that could result. The company says all major drainages are roaded and this improved access reduces the chance of a major pine beetle epidemic. According to Tembec, public opinion will likely work against a pine priority if there is no beetle outbreak.

EKES says the model of harvesting oldest stands first does not reflect current practice, which is more random. The society makes the following points:

- pine priority is giving ways to stands susceptible to Douglas-fir bark beetle, which are not necessarily the oldest.
- partial cutting removes the smaller stems and often the younger and more shade tolerant trees.
- large salvage operations for bark beetle may remove some older stands, but harvesting is not known to be that specific.
- the requirements to reserve older stands will prevent the removal of oldest first over the entire TSA.

Socio-Economic Impacts

EKES says that tourism is now the largest employment sector and maintaining the current AAC compromises this sector's ability to operate and its future options. The society says the government's encouragement of economic diversity (both front- and back-country tourism) will likely have significant negative effects on wildlife populations. This is not acknowledged in the analysis, the society says, but will likely lead to an increased need for harvest constraints to accommodate other uses.

Other Comments

Many submissions commented on factors or issues other than those specifically covered by Timber Supply Review documents. These comments are summarized in this section.

Timber Supply Review Process

EKES is of the opinion that the TSR process does not adequately address impacts on biodiversity and other non-timber values across the landscape, but is biased toward maintaining harvest levels. The society says until the TSR becomes spatial and better reflects management for all values, timber supply will be inflated well beyond a sustainable level. EKES says the base case should reflect mandated management, including the KBLUP Implementation Strategy, Higher Level Plan objectives and implementation of landscape unit planning with appropriate netdowns.

EKES is also concerned that the analysis does not consider the likely impacts of climate change and provides information on anticipated impacts on BC forests. The society also urges consideration of three principles from the Forest Stewardship Council.

Tembec (CFI) expresses concern that the timber supply analysis was occurring at the same time that public input was being gathered on the *Data Package*.

Management

EKES says the Invermere Forest District is managing to the lowest levels under the Forest Practices Code and is implementing provincial direction intended for situations of critical timber shortage. The society says the floor for biodiversity management has become the ceiling.

The Sheep Creek Community advocates meaningful inclusion of the public in decision-making and more decision-making at the community level. The community also says it would be good management to substantially increase the Forest Service reserve in light of the immense changes occurring in the TSA.

Harvest Levels

Tembec expresses the opinion that there is ample evidence to set an AAC of 581,570 cubic metres for the Tembec Supply Area.

The Sheep Creek Community says that attempting to maintain or increase the AAC is a travesty. They say it should be reduced to account for global warming, First Nations land claims, wildlife habitat, Special Management Zones, increased riparian protection, root rot losses and socio-economic changes.

EKES urges the chief forester to set an AAC indicative of a long-term harvest level on a harvesting land base that provides for all life,

not just the forest sector. The society makes the following points:

- maintaining the current harvesting levels for as long as possible will reduce options for future generations (such as having large areas of intact ecosystems).
- relying on old-growth recruitment areas to shore up the AAC and maintain an unrealistic long-term harvest level is irresponsible.
- First Nations concerns must be reflected as a possible reduction to the overall AAC to reflect removals form the THLB.
- the AAC should reflect society's view as a whole rather than timber revenue targets.
- an environmental impact analysis and habitat supply analysis were not carried out in addition to the timber supply analysis.

Appendix 1

Submissions received by the Invermere Forest District

Submissions received on the Data Package

Forest industry

Slocan Forest Products, Radium Division

Crestbrook Forest Industries Ltd. (known as Tembec Industries Inc., effective October 1, 2000)

Interest groups

East Kootenay Environmental Society

Concerned Residents of the Sheep Creek Community

Submissions received on the Timber Supply Analysis Report

Forest industry

Tembec Industries Inc., BC Division

Interest groups

East Kootenay Environmental Society